

WHAT IS CLAIMED:

1. A gearshift operating device of a contact-mesh type transmission driving a shift selection shaft in a first direction and a second direction  
5 different from said first direction to perform gear selection and gear joining and dejoining operations, wherein:  
said gear selection and gear joining and dejoining operations are performed by driving said shift selection shaft in said first direction and simultaneously driving a second actuator, thereby driving said shift  
10 selection shaft in said first direction and simultaneously driving it in said second direction.
2. A gearshift operating device according to Claim 1, wherein said first direction is a direction along the axis of said shift selection shaft and  
15 said second direction is a rotational direction round said shift selection shaft.
3. A gearshift operating device according to Claim 2, further comprising a motor for driving said shift selection shaft in said first  
20 direction and a guide mechanism for converting motion of said shift selection shaft in said first direction to motion in said second direction, wherein said shift selection shaft is driven by said motor in said first and second directions.

4. A gearshift operating device of a normally contact -mesh type transmission comprising a shift finger selectively joining to or dejoining from shift fork shafts of said normally contact -mesh type transmission, a shift selection shaft including said shift finger, at least one electrically  
5 controllable driving means for driving said shift selection shaft in the direction (the shift direction) parallel with said shift fork shafts, at least one electrically controllable driving means for driving said shift selection shaft in the direction (the selection direction) perpendicular to said shift fork shafts, a follower formed integrally with said shift selection shaft, and  
10 a guide slit joined to said follower to guide the operation of said shift selection shaft, wherein:

said guide slit has a plurality of parallel parts parallel with said shift fork shafts and a plurality of slant parts connected so as to come to a point at the neutral position from said plurality of parallel parts.

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5. A gearshift operating device of a normally contact -mesh type transmission comprising a shift finger selectively joining to or dejoining from shift fork shafts of said normally contact -mesh type transmission, a shift selection shaft including said shift finger, at least one electrically  
20 controllable driving means for driving said shift selection shaft in the direction (the shift direction) parallel with said shift fork shafts, at least one electrically controllable driving means for pressing said shift selection shaft in the direction (the selection direction) perpendicular to said shift fork shafts, a follower formed integrally with said shift selection shaft, and  
25 a guide slit joined to said follower to guide the operation of said shift

selection shaft, wherein:

said guide slit has a plurality of parallel parts parallel with said shift fork shafts and a plurality of slant parts connected so as to come to a point at the neutral position from said plurality of parallel parts.

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6. A gearshift operating device of a normally contact -mesh type transmission comprising a shift finger selectively joining to or dejoining from shift fork shafts of said normally contact -mesh type transmission, a shift selection shaft including said shift finger, at least one electrically  
10 controllable driving means for operating said shift selection shaft in the direction (the shift direction) parallel with said shift fork shafts, a follower formed integrally with said shift selection shaft, and a guide slit joined to said follower to guide the operation of said shift selection shaft, wherein:

said guide slit has a plurality of parallel parts parallel with said shift  
15 fork shafts and a plurality of slant parts connected so as to come to a point at the neutral position from said plurality of parallel parts and each slit arranged in said guide slit has an electrically switched gate.

7. A gearshift operating device according to any one of Claims 4 to 6,  
20 wherein said parallel parts of said guide slit and said slant parts of said guide slit are smooth curved slits continuously connected.

8. A gearshift operating device according to any one of Claims 4 to 6,  
wherein said follower has a curved section.

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9. A gearshift operating device according to any one of Claims 4 to 6,  
wherein said follower has a roller.

10. A gearshift operating device according to any one of Claims 4 to 6,  
5 wherein clearance of the joint between said shift finger and said shift fork  
shafts is almost equal to or wider than the width of said shift finger.

11. A gearshift operating device according to any one of Claims 4 to 6,  
wherein the width of said follower has some clearance for the width of  
10 said guide slit.